

Statement of  
Robert F. Hale  
Assistant Director  
National Security Division  
Congressional Budget Office

before the  
Subcommittee on Projection Forces and Regional Defense  
Committee on Armed Services  
United States Senate

March 23, 1988

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Mr. Chairman, I appreciate the opportunity to testify today about the early retirement of Navy aircraft carriers. Last year, the Congressional Budget Office (CBO) issued a report to the full committee titled Navy Combat Aircraft: Issues and Options. The report indicated that the Navy, based on its own requirements and other planning factors, was short of combat aircraft. This shortage suggests that the Navy would not have enough planes to utilize fully all of its aircraft carriers, particularly in wartime. Changes proposed in this year's budget leave the Navy with the same number of carriers but with one less air wing and a continuing shortfall of aircraft, which may heighten concerns over utilization.

As my testimony will show, retiring an aircraft carrier earlier than now planned would permit fuller utilization of remaining carriers and would make the number of carriers and wings equal. Early retirement would also save money. But there are other solutions. The Congress could allow the Navy to buy more aircraft. Or it could maintain the current plan for the same number of carriers and accept the risk that they would not all be fully utilized.

#### CHANGES IN NAVY PLANS

In its latest budget plan, the Navy has said it expects to attain its goal of 600 ships slightly later than it anticipated earlier, as a result of the retirement of 16 frigates. However, the Navy still apparently expects to build from an inventory of 15 aircraft carriers today to a total of 16 carriers

by 1990. (Since the services are still working out a detailed five-year plan consistent with the latest budget projections, Navy plans beyond 1989 are uncertain.) One of these carriers would be in long-term overhaul--called the "slep" or service life extention program--leaving 15 deployable carriers (see Table 1).

While maintaining carrier plans, the Navy expects to reduce the number of active air wings from 14 to 13 this year and has not indicated when it might again have 14 wings. (An air wing, which is the unit that would normally be deployed on a carrier, usually consists of 80 to 90 aircraft plus backups.) The Navy will still have two wings in its reserve forces, making a total of 15 wings available in time of war instead of the 16 wings

TABLE 1. CARRIER AND AIR WING FORCE STRUCTURE: THE ADMINISTRATION'S PLANS FOR 1988 AND 1989

	1988	1989	1990	1991	1992
<b>Aircraft Carriers</b>					
Administration 1988 plan	15	15	16	16	16
Administration 1989 plan	15	15	16	16	16
Difference	0	0	0	0	0
<b>Carrier Air Wings</b>					
Administration 1988 plan	16	16	16	16	16
Administration 1989 plan	15	15	15	15	15
Difference	(1)	(1)	(1)	(1)	(1)

SOURCE: Congressional Budget Office estimates based on data in Department of Defense, Annual Report to Congress, Fiscal Years 1988 and 1989, and in Navy testimony before the Subcommittee on Procurement and Military Nuclear Systems, Committee on Armed Services, U.S. House of Representatives, March 16, 1988.

available last year. This sixteenth wing had been partially established in 1987 when Administration plans changed.

The effects of this force reduction are difficult to assess. Some of the Navy wings associated with last year's plan did not have their full complement of aircraft. Thus, even though it is removing a wing, between 1988 and 1989, the Navy actually plans to add planes to its force structure in order to meet more fully the requirements of its remaining wings.

Naval aircraft procurement was also reduced in this latest budget. As Table 2 shows, last year's plans for procurement during the 1988-1992 period have been reduced by about 150 aircraft. The largest reduction--114 planes--resulted from the cancellation of the A-6F aircraft program.

TABLE 2. CHANGES IN AIRCRAFT PROCUREMENT BETWEEN 1988 AND 1989

System	1988	1989	1990	1991	1992	1988-1992
A-6E/F	(12)	(18)	(24)	(24)	(36)	(114)
EA-6B	6	0	0	0	0	6
AV-8B	(8)	(8)	9	9	(15)	(13)
CH-53E	0	0	(4)	0	0	(4)
AH-1W	12	(12)	0	0	0	0
LRAACA a/	0	0	(2)	(18)	(7)	(27)
Total	(2)	(38)	(21)	(33)	(58)	(152)

SOURCE: Congressional Budget Office estimates from Department of the Navy, Highlights of the Department of the Navy Budget (1988 and 1989).

a. Long-Range Air Antisubmarine Warfare Capable Aircraft.

### Match Between Wings and Carriers

This year's plan for naval aircraft departs from recent plans in an important way: it calls for more carriers than air wings. The current Navy plan anticipates a total of 16 carriers and 15 air wings by 1990. In wartime, the sixteenth carrier would be undergoing a service life extention program and might not be available for many months. During that period, the Navy would have to create another air wing.

The Navy argues that this difference between wings and carriers is temporary and acceptable because an additional carrier will be in extended overhaul and thus only 14 carriers will be readily deployable. History suggests, however, that defense planners have not been comfortable with such a plan. At least since 1970, the Navy has never had fewer wings than carriers. Indeed, during most of the period since 1970, the Navy planned to have one or two more wings than aircraft carriers.

### Aircraft Shortfalls

Last year, CBO estimated that in the 1990s the Navy would have a shortfall of combat aircraft--that is, requirements for combat aircraft would exceed the Navy's inventory. This year, the Navy has changed its requirements and also, because of changes in planned procurements, its projected inventory. Because these changes offset each other, the shortfall remains.

Removal of an air wing in this year's plan reduces requirements by about 130 aircraft, which cuts the shortfall. (Eighty-six of these planes are

in the wing itself while the remaining 44 planes are needed for training and maintenance backup.) On the other hand, reductions in planned procurements will eventually cut inventories by about 150 planes. Thus, CBO estimates that the Navy will have a shortfall of about 190 combat aircraft by 1994, the first year when all the planes bought by 1992 will have been delivered. Given the unit costs the Navy expected for the last year of the 1988 plan, meeting this shortfall would require spending an additional \$6.2 billion on aircraft procurement. (Table 3 shows shortfalls and costs for each type of aircraft. These costs are intended as rough approximations, not specific budget numbers, which would reflect rate changes and other factors.)

That shortfall, and the cost to meet it, would, of course, be substantially larger if removing the air wing is temporary, as the Navy has argued. Restoring the air wing removed in this year's plan would increase requirements, driving up the shortfall in 1994 to about 320 aircraft.

In Congressional testimony last year, the Navy acknowledged shortfalls of combat aircraft similar to those calculated by CBO. It also formally supplied CBO with planning factors roughly consistent with Navy estimates of shortfalls. These factors prescribe planned retirements, numbers of aircraft needed for training and maintenance backup, and other similar information. CBO used these factors in calculating the shortfalls described in this testimony. (Attachment A at the end of my testimony shows Navy estimates of shortfalls.)

TABLE 3. COST/SAVINGS OF MEETING SHORTFALLS AND  
AVOIDING EXCESSES (1988 Budget Authority)

System	1992 Procurement Unit Cost (In millions of dollars)	Quantity Short (Over)	Cost (In billions of dollars)
F-14	73.7 a/	(25)	(1.8)
F/A-18	24.8	(17)	(0.4)
A-6 b/	35.3	158	5.6
AV-8	20.7	(5)	(0.1)
EA-6	49.8	19	0.9
E-2	68.8	(15)	(1.0)
S-3	36.2 c/	29	1.0
SH-60B	17.1	4	0.1
SH-60F	16.6	(10)	(0.2)
P-3	41.4	61	2.5
SH-2	8.9 d/	12	0.1
CH-53	30.8	(12)	(0.4)
CH-46/V-22	36.2	(4)	(0.1)
AH-1	8.1 e/	(5)	f/
Net Shortfall		190 g/	6.2

SOURCE: Congressional Budget Office from the fiscal year 1989 Budget Submission and Navy data.

- a. 1989 procurement unit cost deflated to 1988 dollars.
- b. Shortfalls of this category of aircraft will eventually be met by purchases of A-12 aircraft. However, planned purchases of A-12 aircraft are classified.
- c. V-22 procurement unit cost used as a proxy.
- d. 1987 procurement unit cost inflated to 1988 dollars.
- e. 1988 procurement unit cost.
- f. Under \$100 million.
- g. The composition of this shortfall--though not its size--is affected by assumptions about the types of wings the Navy will have by 1994. The Navy is making a transition to "Teddy Roosevelt" air wings that contain more A-6 (or A-12) aircraft than the current standard wing, but fewer F-14s and F/A-18s. The numbers above reflect Navy wing transition schedules from last year. The Navy has apparently slowed this transition. If the new schedule were reflected in the analysis, the total shortfall would be similar to that shown above, 188, since both types of wings contain a total of 86 aircraft. A-6 shortfalls would be smaller and F-14s and F/A-18s would begin to experience small shortages.

Of course, the Navy could have altered its planning factors. But most changes that would substantially reduce shortfalls also have operational implications. For example, the Navy could reduce shortfalls by keeping aircraft longer than it had planned last year. That would, however, increase the fleet's average age. The average age for all combat aircraft already exceeds 12 years and is growing. (The average age for fighter/attack aircraft--whose stressful mission may make age most important--will decline modestly over the next two years but then will begin to rise and by 1994 will be slightly higher than it is today.)

Should the Navy's advanced tactical aircraft (ATA)--now designated the A-12--enter the inventory in large quantities by 1994, CBO's estimates of shortfalls could be smaller. The A-12 will eventually replace the A-6 aircraft, but details of the program are classified. Former Secretary of the Navy John Lehman indicated, however, that the plane might be on a schedule similar, or perhaps even a bit ahead, of the one for the Air Force's advanced tactical fighter. If procurement of the A-12 was to begin in 1991, two years ahead of plans for the Air Force fighter, and the plane was procured at rates similar to those at the beginning of the A-6 program, then there would be enough A-12s in the inventory to reduce the shortfall in 1994 to about 160 aircraft.

Implications of Aircraft Shortfalls. What are the implications of shortfalls in combat aircraft? They are certainly not a complete measure of aircraft

carrier capability. Such a measure would need to consider the number of carriers and the capability of embarked aircraft. Shortfalls are probably best viewed as a measure of how fully aircraft carriers are utilized. By that measure, the Navy's shortfall in 1994 of 190 planes amounts to about 5 percent of its total combat aircraft requirements. Viewed another way, the 1994 shortfall of those aircraft normally deployed on carriers is about the equivalent of an air wing and its supporting aircraft.

The Navy argues that these shortfalls will not result in carriers being deployed in peacetime without a full complement of aircraft. To meet shortfalls, the Navy would "crossdeck" planes--that is, take them from an air wing that has just returned from deployment and place them on a carrier being deployed. The Navy could also reduce the number of planes undergoing routine maintenance.

These various accommodations may, however, reduce defense capabilities, particularly in wartime. In peacetime, crossdecking of aircraft means they fly more and thus reach the end of their expected service lives faster; indeed, crossdecking has been vigorously opposed by the Navy in the past. Reducing time in routine peacetime maintenance may also make planes wear out faster. Moreover, crossdecking means less time available to modify aircraft, which decreases the Navy's ability to offset technological obsolescence by upgrading older planes. These problems are more worrisome because the Navy's fleet is aging and because the Navy expects

to offset shortfalls by keeping aircraft longer and modifying them to meet increasing enemy threats.

The problems posed by aircraft shortfalls, however, would be most severe in wartime. At such a time, the Navy would want to deploy immediately many units that, in peacetime, are in workup for deployment. Shortfalls that can be accommodated in peacetime may lead to units being deployed in wartime without all of their assigned aircraft. Shortfalls would also mean that fewer spare planes would be available to replace aircraft damaged in combat.

#### Ship Shortfalls

An aircraft carrier and its aircraft are also accompanied by a force of surface combatants that play an important role in the carrier's defense. Based on Navy requirements in last year's plans, CBO estimated that, by the turn of the century, the Navy would be short some 22 carrier escorts (cruisers and destroyers). Ship shortfalls could cause problems in defending aircraft carriers in a major war against the Soviets.

#### EARLY CARRIER RETIREMENT

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Retiring an aircraft carrier would restore the equality between numbers of carriers and wings, though without further decreases in the number of wings it would not reduce aircraft shortfalls. Retiring an aircraft carrier would also reduce costs. Last year, at the request of this Subcommittee, CBO

estimated the costs associated with the legislation proposed by the Chairman, which involved retiring an older carrier and an air wing in 1990 when a new carrier--the Lincoln--is commissioned. Another older carrier would be retired in 1992 when the Washington is commissioned. Savings for the 10-year period from 1988 through 1997, expressed in constant 1988 dollars of budget authority, ranged from \$0.9 billion to \$3.9 billion. (Attachment B to my statement contains the CBO estimate and Attachment C contains the Navy's estimates of savings provided in response to CBO questions.) The range reflects different assumptions about actions that the Navy could take after retiring the carrier. Key among the assumptions are:

- o End-strength reductions. Would the Navy reduce its number of military personnel after retiring the carrier or use those people to meet other personnel needs?
- o Aircraft retirements. Would the Navy retire aircraft that would have otherwise been aboard the carrier or use them to meet aircraft shortfalls?
- o Indirect costs. Would the Navy limit reductions in costs to those directly associated with the retired carrier and aircraft or would it make reductions in its support forces, such as trainers and providers of medical care?

If all these key assumptions were made in ways that maximize savings, then total savings would reach \$3.9 billion over 10 years. (The estimate of \$3.9 billion, made last year, assumes retirement of an air wing. Because the new Administration plan deletes a wing, the Congress might decide not to accompany retirement of a carrier with retirement of a wing. That decision would reduce maximum savings from \$3.9 billion to \$2.2 billion.) Attachment B shows the effects of other choices on savings.

The Subcommittee has also received estimates from the Navy and from the General Accounting Office. These estimates vary in magnitude, but they all indicate that early carrier retirement would produce savings.

#### CONCLUSION

Mr. Chairman, retiring aircraft carriers earlier than planned would clearly reduce costs. It would also restore equality between the number of wings and carriers or, if accompanied by a further reduction in air wings, it would reduce aircraft shortfalls. By those measures, retiring carriers would mean fuller utilization of the remaining vessels. On the other hand, it would mean fewer aircraft carriers that could be deployed in peace or war. These are the advantages and disadvantages you must weigh in deciding how many carriers to maintain in the U.S. Navy.

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**ATTACHMENTS**

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DEPARTMENT OF THE NAVY  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON, DC 20350-2000

IN REPLY REFER TO

Ser 508/7U403392

From: Deputy Chief of Naval Operations (Air Warfare)  
 To: Congressional Budget Office, Budget Analysis Division  
 (ATTN: Ms. Pierrot)

Subj: PLANNING FACTORS FOR NAVAL AIRCRAFT

Encl: (1) Summary of aircraft planning factors provided by CBO to USN 19 MAR 87.

1. Enclosure (1) is a summary of planning factors used by the Congressional Budget Office analysts to assist in determining U. S. Navy aircraft requirements/shortfalls in 1987 and 1994. Some of this information has been modified/clarified through phone conversations and these changes are reflected in the comments that follow. Enclosure (1) is forwarded and concurred in with the following modifications:

- o Page 2 - SHORTFALLS (OVERAGES) should be modified to read:

<u>System</u>	<u>1987</u>		<u>1994</u>	
	<u>CBO</u>	<u>Navy</u>	<u>CBO</u>	<u>Navy</u>
F-14	11*	7	16	11 NOTE (1)
FA-18	21*	21	5	0 NOTE (1)
A-6/KA-6	20	22*	61	59*
AV-8	22	23*	(13)	(14)
EA-6	3*	5	27	24 NOTE (1)
E-2	13*	12	(10)*	(10) NOTE (1)
S-3A/B	20	24	42*	36 NOTE (1)
SH-60B	10	11	10	7
SH-3/SH-60F	5	7	7	9
P-3	45	54	49	51
SH-2	(1)*	0	9*	10 NOTE (1)
CH-53	(4)	(5)	5	5
CH-46/V-22	(7)*	(8)	4	2 NOTE (1)
AH-1	2	(4)	7	12
	<u>160</u>	<u>169</u>	<u>222</u>	<u>202</u>

\* Denotes Change

NOTE (1) It is understood that CBO has adjusted their figures to reflect these new totals.

- o Page 3 - Modify the Retirement Assumptions to read:

A-7E 72 A-7's will be stored in 1990 with service life remaining. (72 vice 108)  
A-4 Delete "25 A-4's will be stored in 1987 with service life remaining" Insert "All A-4's will go to AIRLANT/AIRPAC to replace the TA-4J's going to CNATRA."  
EA-6B EA-6B's will retire at 35 years of age vice 40.  
E-2C E-2C's will retire at 22 years of age vice 21.  
P-3A Delete. P-3A OSM is 330 mos (27.5 years) vice 22 years.

Page 4 - Under the "ATTACK" section, the following changes should be made:

- o All A-7E's will be retired from the active Navy by the end of 1991 vice 1990.
- o A-7 Naval Reserve squadrons in operation will be: 1987-4, 1988-4, 1989-3, 1990-2, 1991-0.

Page 7 - Delete the 3 sentences and replace with the following: "The CH-46E requirements include 15 active squadrons and 2 Reserve squadrons. The active squadrons are composed of 12 aircraft each and will remain with that number of aircraft. In 1994 and beyond the V-22 active squadrons will have 15 aircraft each."





**CONGRESSIONAL BUDGET OFFICE  
U.S. CONGRESS  
WASHINGTON, D.C. 20515**

November 13, 1987

Honorable Edward M. Kennedy  
Chairman  
Subcommittee on Projection Forces  
and Regional Defense  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

In response to your request of October 13, 1987, the Congressional Budget Office (CBO) has estimated the savings for the retirement of aircraft carriers under your amendment (Number 777) to the National Defense Authorization Act for 1988 and 1989, S. 1174. In general terms, your amendment requested that the Navy study the alternative of retiring an older aircraft carrier (the Coral Sea) in 1990 when a new carrier (the Lincoln) is commissioned. The amendment would also study retiring another older carrier (the Midway) in 1992 when another new aircraft carrier (the Washington) joins the fleet. A carrier air wing of the Midway-type would also be eliminated in 1990 when the first carrier retires. Thus the alternative would have one less aircraft carrier and one less air wing than the Administration plans for the period from 1990 to 1996. In 1997 and beyond, however, forces under the amendment would be the same as those planned by the Administration. Table 1 identifies the force structure under Administration plans and the amendment.

We have prepared two sets of estimates--a set assuming personnel levels are reduced and a set assuming they are not. Assuming no manpower changes, your amendment would save about \$0.3 billion per year in outlays (see Table 2); these estimates apply to either National Defense (function 050) or to the federal budget as a whole. When personnel levels change, savings in the Defense function increase to about \$0.6 billion per year (see Table 3), but the savings in the Federal budget increase less-- to \$0.5 billion per year (see Table 4). The difference occurs primarily because of accrual accounting for military retirement where some of the extra savings in the Defense budget are offset by for gone receipts in the military retirement trust fund (functions 600 and 950). Table 5 shows our estimate of the number of manpower reductions associated with the force structure change.

As you requested, we have worked with the General Accounting Office (GAO) and have provided them with a copy of our estimates. To date, we have not seen GAO's own estimates of the savings from earlier carrier retirement.

Honorable Edward M. Kennedy  
November 13, 1987  
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We also provided a copy of our estimates to the Navy for comment and review. The Navy responded by supplying its own estimates showing savings of \$0.2 billion per year when personnel levels are unchanged and \$0.3 billion when personnel levels are reduced. Much of the difference in CBO and Navy estimates is due to the estimate of indirect savings. CBO's estimates assume that all support functions such as base operations, force and individual training, headquarters, and medical and other personnel support would be affected by the proposed force change. The Navy asserts that it is impossible to estimate the magnitude of savings in these areas but agrees that some savings would be possible. CBO and Navy estimates for direct savings are close when personnel levels are unchanged, but differ by about \$0.1 billion per year when they are reduced.

#### AIRCRAFT SHORTFALLS

You also asked that we estimate the impact of your amendment on the Navy's shortfall of combat aircraft. The net shortfall of naval aircraft under the Administration's plans would total 176 aircraft by 1994, the earliest year when all of the planes bought under the Administration's program will have been delivered. (This shortfall does not reflect any changes in naval aircraft procurement stemming from Congressional action on the 1988 budget.) A rough estimate of the cost to buy these 176 planes would equal about \$7.0 billion in 1988 dollars of budget authority. The net shortfall associated with the smaller force structure proposed in your amendment would be 78 planes which would cost about \$3.9 billion. Thus the smaller requirement would reduce the shortfall in 1994 by 98 planes and the cost to buy them by about \$3.1 billion. Your amendment would not affect the shortfall of naval aircraft in 1997 and beyond, however, since the amendment assumes forces rise to the Administration's planned level by then.

These estimates of aircraft shortfalls assume that aircraft retire at ages now planned by the Navy. Costs to meet shortfalls are approximate and generally assume that added aircraft are purchased at expected prices for buys planned for 1992. The estimates also make many other detailed assumptions that are discussed in a forthcoming CBO study.

#### SHIP COSTS

In addition, your letter requested that we provide a separate estimate, not directly related to your amendment, of the costs of buying major naval vessels that would be needed to meet all Administration goals. To answer this question, we first developed the costs of a plan for ship buys identical with Administration plans through 1992; beyond 1992, when Administration plans are not publicly available in detail, we assumed purchases that seemed consistent with general plans that are available (see Table 6 for details). We then estimated how closely those assumed purchases would meet Administration goals--defined as a 600-ship Navy including a force of 15 deployable aircraft carriers and associated escort ships--and estimated costs to meet shortfalls.

November 13, 1987  
Page 3

Our analysis considered only the following types of ships: ballistic missile submarines, nuclear attack submarines, aircraft carriers, and carrier escorts (cruisers and destroyers). From 1982 through 1987, costs for these major vessels consumed an average of about 70 percent of the total Navy budget for shipbuilding and conversion (the SCN account). The analysis also assumed that older ships retire at ages roughly consistent with recent plans and practices (carriers at 45 years, surface escorts at 30 years, submarines at 30 years). Navy plans for retirements, which are classified, could differ. Our analysis does not reflect changes that Congress may make in the 1988 budget.

We estimate that, from 1988 to the year 2000, the cost to buy major vessels in numbers that seem consistent with Administration plans would total about \$137 billion (in 1988 dollars of budget authority). Total SCN costs would of course be higher since our estimate only includes major vessels. This total of \$137 billion would exceed what has been spent on major vessels in the past. If budget authority for major vessels did not grow in real terms above its 1987 level, it would total \$112 billion (in 1988 dollars) in the period 1988-2000. Indeed, the \$137 billion for major vessels would equal all of SCN spending if there is no real growth. If budget authority for SCN remained at its 1987 level in real terms, it would also total about \$137 billion in the period 1988-2000.

This spending might still not meet all Administration requirements. Our analysis showed that the numbers of ships bought in Table 6, coupled with likely retirement ages, would leave the Administration with 22 fewer cruisers and destroyers than are called for in its current force goals. Added costs to eliminate this shortfall would total about \$15 billion. Based on our assumptions, this would bring total costs of all major vessels needed to meet Administration goals to \$152 billion.

With best wishes,

Sincerely,

*Edward M. Gramlich*  
Edward M. Gramlich  
Acting Director

Enclosure

cc: Honorable William S. Cohen  
Ranking Minority Member

TABLE I. FORCE STRUCTURE UNDER ADMINISTRATION PLANS AND THE AMENDMENT

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<b>Administration</b>										
Deployable Aircraft Carriers	14	14	15	15	15	15	15	15	15	15
Active Carrier Air Wings	14	14	14	14	14	14	14	14	14	14
<b>Amendment a/</b>										
Deployable Aircraft Carriers	14	14	14	14	14	14	14	14	14	15
Active Carrier Air Wings	14	14	13	13	13	13	13	13	13	14

a. Retire one small deck carrier in 1990 when the USS Abraham Lincoln is commissioned and retire another in 1992 when the USS George Washington is commissioned. Stand down a Midway type air wing in 1990 when first small deck carrier retires. Air wing composition is assumed to be:

F/A-18	36
A-6/KA-6	16
SH-3	6
EA-6	4
E-2	4
Total	66

TABLE 2. TOTAL FEDERAL BUDGET SAVINGS FROM THE AMENDMENT-ASSUMING NO ENDSTRENGTH CHANGES  
(By fiscal year, in billions of 1988 dollars)

		1988	1989	1990 <u>a/</u>	1991	1992	1993	1994	1995	1996	1997 <u>a/</u>	1988- 1997 <u>b/</u>
<u>Budget Authority</u>												
Carrier Savings	Direct	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9
	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Total	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.1
Air Wing Savings	Direct	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.7
	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	Total	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9
Total	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.6
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.4
	Total	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	2.0
<u>Outlays</u>												
Carrier Savings	Direct	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9
	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	Total	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	1.0
Air Wing Savings	Direct	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.6
	Indirect	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
	Total	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
Total	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	1.5
	Indirect	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.4
	Total	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	1.9

a. CBO assumed a mid-year activation or deactivation of forces.

b. Details may not add to totals because of rounding.

TABLE 3. FUNCTION 050 SAVINGS FROM THE AMENDMENT-ASSUMING ENDSTRENGTH CHANGES a/  
(By fiscal year, in billions of 1988 dollars)

		1988	1989	1990 <u>b/</u>	1991	1992	1993	1994	1995	1996	1997 <u>b/</u>	1988- 1997 <u>c/</u>
<u>Budget Authority</u>												
Carrier Savings	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.6
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.6
	Total	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	2.2
Air Wing Savings	Direct	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0
	Indirect	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
	Total	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.1	1.8
Total	Direct	0.0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.2	2.6
	Indirect	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.4
	Total	0.0	0.0	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.3	3.9
<u>Outlays</u>												
Carrier Savings	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.5
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.5
	Total	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	2.1
Air Wing Savings	Direct	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.9
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7
	Total	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.2	1.7
Total	Direct	0.0	0.0	0.1	0.3	0.3	0.4	0.4	0.4	0.4	0.2	2.5
	Indirect	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.3
	Total	0.0	0.0	0.2	0.5	0.5	0.6	0.6	0.6	0.6	0.3	3.7

- a. Savings in the federal and DoD budgets differ because of the effects of accrual accounting for military retirement and other pay costs offset in the federal budget.
- b. CBO assumed a mid-year activation or deactivation of forces.
- c. Details may not add to totals because of rounding.

TABLE 4. TOTAL FEDERAL BUDGET SAVINGS FROM THE AMENDMENT-ASSUMING ENDSTRENGTH CHANGES a/  
(By fiscal year, In billions of 1988 dollars)

		1988	1989	1990 b/	1991	1992	1993	1994	1995	1996	1997 b/	1988- 1997 c/
<b>Budget Authority</b>												
Carrier Savings	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.6
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.6
	Total	0.0	0.0	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	2.2
Air Wing Savings	Direct	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.0
	Indirect	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
	Total	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.1	1.8
Total	Direct	0.0	0.0	0.2	0.4	0.4	0.4	0.4	0.4	0.4	0.2	2.6
	Indirect	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.4
	Total	0.0	0.0	0.3	0.6	0.6	0.6	0.6	0.6	0.6	0.3	3.9
<b>Outlays</b>												
Carrier Savings	Direct	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.4
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.5
	Total	0.0	0.0	0.1	0.2	0.3	0.3	0.3	0.3	0.3	0.2	1.8
Air Wing Savings	Direct	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.8
	Indirect	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.7
	Total	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	1.5
Total	Direct	0.0	0.0	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.2	2.2
	Indirect	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.1	1.1
	Total	0.0	0.0	0.2	0.4	0.5	0.5	0.5	0.5	0.5	0.3	3.3

- a. Savings in the federal and DoD budgets differ because of the effects of accrual accounting for military retirement and other pay costs offset in the federal budget.
- b. CBO assumed a mid-year activation or deactivation of forces.
- c. Details may not add to totals because of rounding.

**TABLE 5. CUMULATIVE MANPOWER REDUCTIONS ASSOCIATED WITH FORCE CHANGE**  
 (Numbers of people by end of fiscal year)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
<b>Active</b>										
Officers	0	0	700	700	700	700	700	700	700	0
Enlisted	0	0	6,300	6,300	6,300	6,300	6,300	6,300	6,300	0
<b>Reserve</b>										
Officers	0	0	50	50	50	50	50	50	50	0
Enlisted	0	0	300	300	300	300	300	300	300	0
<b>Total Military</b>	<b>0</b>	<b>0</b>	<b>7,350</b>	<b>0</b>						
<b>Civilian</b>	<b>0</b>	<b>0</b>	<b>1,550</b>	<b>0</b>						

**NOTE:** Numbers may not add to totals because of rounding.

TABLE 6. MAJOR VESSELS PURCHASED

Ship Type	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Trident <u>a/</u>	1	1	1	1	1	1							
CVN <u>b/</u>			1			2	1		1		2		1
SSN 688	3	2	2	2	1								
SSN 21		1		2	2	4	4	4	4	4	4	4	4
CG 47	2	2	1										
DDG 51	3	3	3	5	6	6	6	6	6	6	6	6	6
Additional Ships to meet goals <u>c/</u>		3	3	3	3	3	3	2	2				

- a. The plan buys Trident ballistic missile submarines (SSBNs) only through 1993, when the twentieth unit will be authorized. The projection limits the Trident force to 20 submarines due to constraints on basing additional SSBNs. Authorizing Trident SSBNs at one per year from 1994 through 2000 would cost an additional \$9 billion, increasing the thirteen-year cost for major vessels from \$137 billion to \$146 billion.
- b. The plan assumes that aircraft carriers retire after 45 years of service. CVN-74 and CVN-75 are authorized in accordance with current Navy plans. Because of the lead time required to build new aircraft carriers, other replacement carriers are authorized eight years in advance of assumed retirement dates. Three carriers are scheduled to retire in 2006, thereby requiring their replacements to be authorized in 1998. In order to smooth out carrier procurement, two of these replacements are assumed to be authorized in 1998, with the third authorized in 2000. A total of eight aircraft carriers are authorized in the period.
- c. This line adds 22 cruisers and destroyers needed to reach the Navy's force goal of 137. The cost for these additional ships totals about \$15 billion. The total cost for buying this plan would increase to \$152 billion if these ships are added.



DEPARTMENT OF THE NAVY  
OFFICE OF LEGISLATIVE AFFAIRS  
WASHINGTON, D. C. 20350

IN REPLY REFER TO

LA-5-259:lrm  
23 October 1987

Dear Mr. Miller,

In response to your request for information on savings associated with early carrier retirement, the attached material is forwarded.

Sincerely,

*J. J. Chernesky*

J. J. CHERNEKY  
Captain, U.S. Navy  
Director, Navy Programs

Mr. Michael Miller  
Congressional Budget Office  
2nd & D Streets S.W.  
Washington, D.C. 20515

Enclosure

## COST ANALYSIS

### SAVINGS ASSOCIATED WITH EARLY CARRIER RETIREMENT

This study has been conducted in response to an inquiry from the Congressional Budget Office (CBO) regarding the accuracy of their predicted savings resulting from the early retirement of the aircraft carriers USS MIDWAY and USS CORAL SEA and one "Midway" carrier air wing. The assumptions and methodology underlying this analysis are presented below followed by the study results in Table 1.

Specifically, Table 1 depicts the expected savings associated with the retirement of the USS CORAL SEA in 1990 vice 1992, the USS MIDWAY in 1992 vice 1997, and a stand-down from 14 to 13 active carrier air wings for the period 1990 to 1997. Costs are presented by fiscal year for FY90-97 in FY88 \$M, broken down into carrier and air wing MPN and other Operating and Support (O&S) Costs. In general, O&S corresponds to - but is not identical to - the O&MN budget category (there may be small amounts of MPN and procurement included in O&S). Carrier costs are those for the USS MIDWAY (CV-41) in FY86, escalated to FY88 \$ from the Ships' Visibility And Management of Operating and Support Costs (VAMOSC) database. Aircraft costs are derived primarily from the Aircraft VAMOSC database with modifications to accurately indicate true aircraft operating and support costs. Costs were normalized to costs per aircraft and then aggregated according to the air wing inventory. Since the preponderance of the costs accounts making up the VAMOSC data base are accounts like O&MN and MPN which have very high outlay rates, Table 1 represents a close approximate of both budget authority (BA) and outlays.

Recent operating costs are being used to predict future savings. This approach is reasonably accurate for categories other than personnel. For personnel, however, using costs to predict savings assumes that there are changes in end-strength which occur immediately upon deactivation (see assumptions 4. and 5. below). This usually will not occur. Any changes in end-strength will occur over time and will be accomplished by not recruiting replacements for attrition losses. This will result in a fractional increase in grade and seniority which will likewise take some time to settle out. Therefore, the predicted savings with and without personnel costs included should be taken as upper and lower bounds on actual savings.

It cannot be assumed that as a result of deactivating carriers and an air wing earlier than currently planned that Navy end strength would automatically be reduced. In the past, end strength has not been reduced because:

- The manpower freed up by deactivation would be needed to correct personnel shortages in other areas.
- Mid-level military personnel cannot be reduced "in force." Endstrength reductions, when forced by Congress, normally are effected through attrition and reduced recruitment. The overall effect of this is to "dampen" any potential "savings."
- The Navy would ultimately be building back to the 15 CVBG level in 1997. Needed talent, particularly at the mid level, cannot be

recruited and trained rapidly. Skilled enlisted personnel therefore would not leave or be released from the service. Rather, they would be reassigned as needed and become part of the orderly ramp-up to a fully manned 15 CV level in 1997.

- For similar reasons, civilian manpower, which in this scenario is principally indirect or overhead costs, would not be reduced.

For all of these reasons, despite a reduction of billets by early deactivation, actual savings in personnel costs would not necessarily be realized. Therefore direct savings would more closely approximate the lower end of the savings range, i.e. \$1.4B, than the higher end.

Only savings of Direct Costs have been predicted. Indirect Costs are incurred by placing demands upon elements of the support infrastructure. While these demands will be lessened by decommissioning the units in question, there will not be an immediate discernible effect on this support infrastructure. Undeniably, over time, some savings will be realized. The magnitude of these changes is almost impossible to accurately estimate. In this case, particularly, since the reduction is only for a period of seven years, any savings would be for a short period of time.

The study is based upon the following assumptions:

1. The baseline contained in the CBO letter of 8 October 1987. Specifically, activation/deactivation occurs at mid-fiscal year and the alternative force structure listed in Table 1: Retire one CV in 1990, the second in 1992. Reduce from 14 to 13 active carrier air wings in 1990. Reach 15 deployable aircraft carriers and return to 14 air wings in 1997. Air wing composition is:

F/A-18	36
A-6/KA-6	16
SH-3	6
EA-6	4
E-2	4

2. Indirect costs are not estimated.
3. Salvage/retirement costs for the decommissioned ships equal salvage value. The ships would not be "mothballed" with costs associated therewith.
4. MPN savings equal current MPN costs for these units. i.e. that end-strength reductions reflect the rank, specialty and seniority structure of the decommissioned commands.
5. Savings begin to accrue at the moment of decommissioning; i.e., at mid-fiscal year. For example, the savings in FY90 are 1/2 the annual operating costs of the decommissioned commands. The savings in FY97 are likewise 1/2 the total annual costs, based upon the assumption of commissioning the 15th carrier and 14th air wing at mid-year. End-strength changes occur at decommissioning.

6. The table presents only savings associated with decommissioning the specified commands, not with any other changes in force structure.

7. The Navy's overseas commitments will remain constant at the current level and it will continue to fulfill its overseas commitments with 14 vice 15 carriers.

8. The OPTEMPO of the decommissioned units during the years in question would have been the same as in FY86.

**FY88 \$M DIRECT SAVINGS**

<b>FISCAL YR</b>	<b>90</b>	<b>91</b>	<b>92</b>	<b>93</b>	<b>94</b>	<b>95</b>	<b>96</b>	<b>97</b>	<b>TOTAL 90-97</b>
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<b>CARRIER O&amp;MN</b>	<b>\$51.1</b>	<b>\$102.1</b>	<b>\$102.1</b>	<b>\$102.1</b>	<b>\$102.1</b>	<b>\$102.1</b>	<b>\$102.1</b>	<b>\$51.1</b>	<b>\$714.7</b>
<b>CARRIER PERS</b>	<b>\$21.8</b>	<b>\$43.6</b>	<b>\$43.6</b>	<b>\$43.6</b>	<b>\$43.6</b>	<b>\$43.6</b>	<b>\$43.6</b>	<b>\$21.8</b>	<b>\$305.2</b>
<b>AIRWING O&amp;MN</b>	<b>\$45.3</b>	<b>\$90.7</b>	<b>\$90.7</b>	<b>\$90.7</b>	<b>\$90.7</b>	<b>\$90.7</b>	<b>\$90.7</b>	<b>\$45.3</b>	<b>\$634.6</b>
<b>AIRWING PERS</b>	<b>\$24.9</b>	<b>\$49.8</b>	<b>\$49.8</b>	<b>\$49.8</b>	<b>\$49.8</b>	<b>\$49.8</b>	<b>\$49.8</b>	<b>\$24.9</b>	<b>\$348.6</b>
<b>TOTAL W/O PERS</b>	<b>\$96.4</b>	<b>\$192.8</b>	<b>\$192.8</b>	<b>\$192.8</b>	<b>\$192.8</b>	<b>\$192.8</b>	<b>\$192.8</b>	<b>\$96.4</b>	<b>\$1,349.3</b>
<b>TOTAL INCL PERS</b>	<b>\$143.1</b>	<b>\$286.2</b>	<b>\$286.2</b>	<b>\$286.2</b>	<b>\$286.6</b>	<b>\$286.2</b>	<b>\$286.2</b>	<b>\$143.1</b>	<b>\$2,003.1</b>

<b>A/C TYPE</b>	<b>#</b>	<b>PER CVN</b>	<b>PER A/C</b>			<b>CVW</b>		
			<b>O&amp;MN</b>	<b>PERS</b>	<b>TOTAL</b>	<b>O&amp;MN</b>	<b>PERS</b>	<b>TOTAL</b>
F/A-18	36	\$1,248	\$0.591	\$1,839		\$44.9	\$21.3	\$66.2
A-6	16	\$1,756	\$0.663	\$2.419		\$28.1	\$10.6	\$38.7
SH-3	6	\$0.744	\$0.963	\$1.707		\$4.5	\$5.8	\$10.2
EA-6B	4	\$1.798	\$1.616	\$3.414		\$7.2	\$6.5	\$13.7
E-2C	4	\$1.496	\$1.417	\$2.913		\$6.0	\$5.7	\$11.7
<b>TOTAL</b>					<b>\$90.7</b>	<b>\$49.8</b>	<b>\$140.5</b>	